

# RECLAMATION

*Managing Water in the West*

## San Joaquin River Restoration Program Workshop

## San Joaquin River Overview

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U.S. Department of the Interior  
Bureau of Reclamation

# Reclamation Mission Statement

Is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.



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# Reclamation Workshop Presentation

- **The Restoration Program that we are implementing is the complex result of both a Court Ordered Settlement and Authorizing Federal Legislation.**
- **Implementation is even more complex.**
- **We continue to have an ongoing dialogue with the Settling Parties, 3rd Parties, Implementing Agencies, and Regulatory Agencies to assist us in sorting through and addressing the complexities.**

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# Reclamation Workshop Presentation

- **Consistent with the October 21, 2010 Notice, our intent today is to provide information and discuss with the Board some of the activities and complexities associated with the implementation of the San Joaquin River Restoration Program.**



Reach 1



Reach 2



Reach 3



Reach 4



Reach 5



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# San Joaquin River Tributaries

## Calaveras River

- New Hogan Dam (Army Corps of Engineers – Completed 1964)
- Storage Capacity: 317,000 acre-feet

## Stanislaus River

- New Melones Dam (Bureau of Reclamation – Completed 1979)
- Storage Capacity: 2,400,000 acre-feet

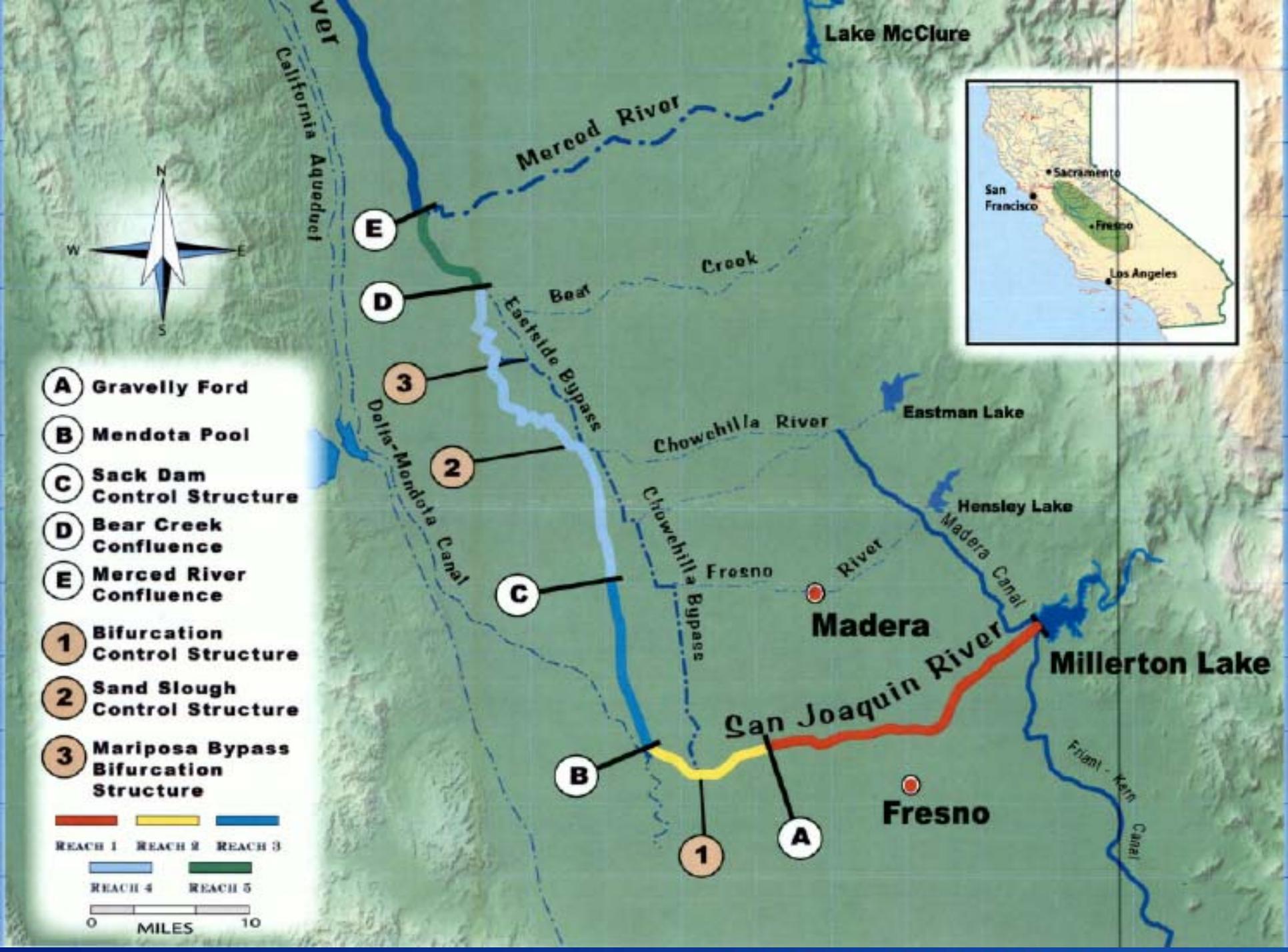
## Toulumne River

- New Don Pedro Dam (Army Corps of Engineers – Completed 1971)
- Storage Capacity: 2,030,000 acre-feet

## Merced River

- New Exchequer (Merced Irrigation District – Completed 1967)
- Storage Capacity: 1,032,000 acre-feet





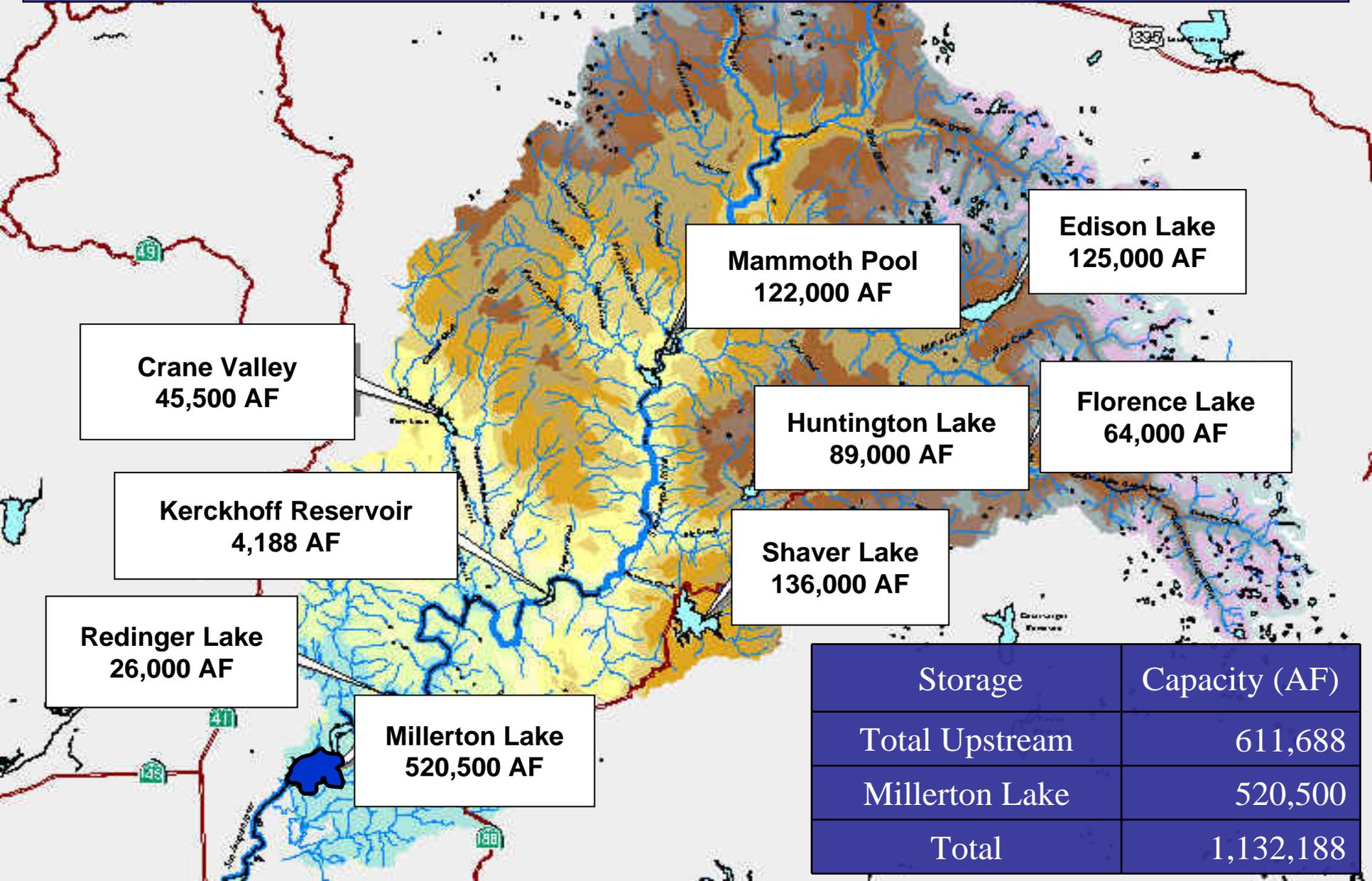
# Southern California Edison (SCE) - Big Creek System

- **Constructed in four phases, which began in 1911 and ended in 1995.**
- **6 major reservoirs with a storage capacity of approx. 560,000 acre feet:**
  - **Huntington Lake: 89,000 AF (1917)**
  - **Florence Lake: 64,000 AF (1926)**
  - **Shaver Lake: 136,000 AF (1927)**
  - **Edison Lake: 125,000 AF (1954)**
  - **Redinger Lake: 26,000 AF (1951)**
  - **Mammoth Pool: 122,000 AF (1960)**

# Pacific Gas and Electric – (PG&E)

- Crane Valley Reservoir: 45,500 AF (1910)
- Kerckhoff Reservoir: 4,188 AF (1920)

# San Joaquin Basin Upstream Storages



**Crane Valley**  
45,500 AF

**Kerckhoff Reservoir**  
4,188 AF

**Redinger Lake**  
26,000 AF

**Millerton Lake**  
520,500 AF

**Mammoth Pool**  
122,000 AF

**Huntington Lake**  
89,000 AF

**Shaver Lake**  
136,000 AF

**Edison Lake**  
125,000 AF

**Florence Lake**  
64,000 AF

Storage	Capacity (AF)
Total Upstream	611,688
Millerton Lake	520,500
Total	1,132,188

# Upper San Joaquin River Basin

## ➤ Annual Average:

### ➤ Huntington Lake Precipitation: 45.4 inches

- WY 1977 – WY 2007

### ➤ Natural River: 1,790,000 acre-feet\*

### ➤ Contract Deliveries: 1,334,000 acre-feet\*

### ➤ San Joaquin River Releases: 435,000 acre-feet\*

\* WY 1959 – WY 2009

# Friant Dam/Millerton Lake

- Completed in 1942
- Storage Capacity: 520,500 AF
- Dead Pool: 135,000 AF
- Flood Control & Water Conservation to meet demands:
  - Irrigation
  - Municipal
  - Industrial
- Downstream Releases:
  - San Joaquin River (8,000 CFS)
  - Friant-Kern Canal (5,000 CFS)
  - Madera Canal (1,250 CFS)



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# Friant Division – Member Districts

- There are 29 long-term Friant Division water service contracts.
- Class 1 Water – 800,000 acre-feet
- Class 2 Water – 1,400,000 acre-feet

# Friant Dam/Millerton Lake Operating Parameters

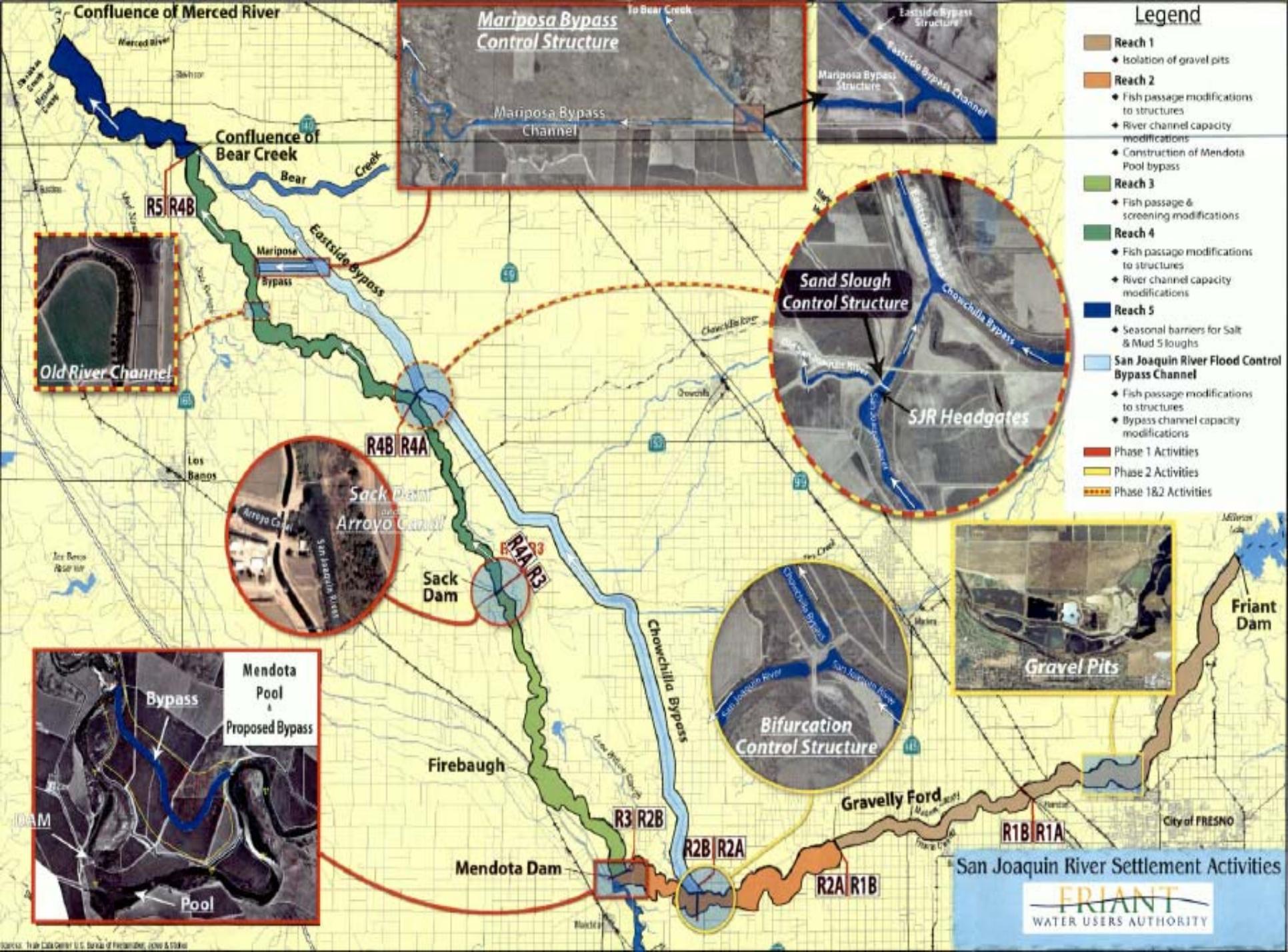
- **SWRCB Operating Permit number 11886 indicates that Reclamation can not store water at Friant Dam from August 1<sup>st</sup> – November 1<sup>st</sup>.**
- **Stored water is “any water that is held for 30 days or longer is considered stored water”.**

# Friant Operations

- The San Joaquin River has two major runoff seasons
  - November through March is predominately rain
  - April through July is predominately snowmelt
- Snowmelt produces ~70% of annual water supply.
- Reclamation incorporates data provide by DWR, PG&E, SCE, FWA, MCWPA, NWS, COE, and Downstream Interest.
  - Flood Control
  - Contractual Commitments
  - Downstream Water Rights
  - San Joaquin River Restoration Release Requirements

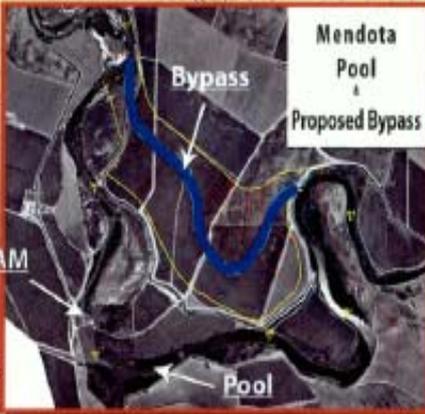
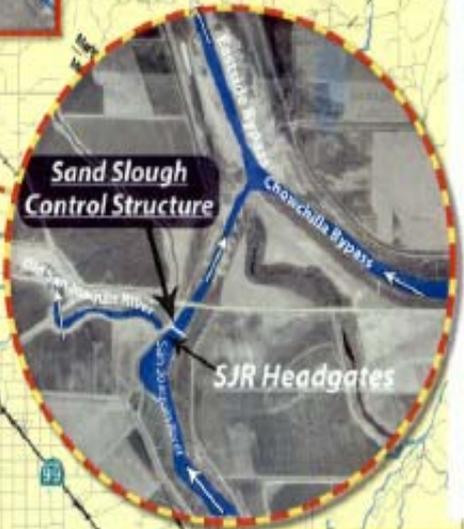


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**Legend**

- Reach 1**
- Isolation of gravel pits
- Reach 2**
- Fish passage modifications to structures
- River channel capacity modifications
- Construction of Mendota Pool bypass
- Reach 3**
- Fish passage & screening modifications
- Reach 4**
- Fish passage modifications to structures
- River channel capacity modifications
- Reach 5**
- Seasonal barriers for Salt & Mud S loughs
- San Joaquin River Flood Control Bypass Channel**
- Fish passage modifications to structures
- Bypass channel capacity modifications
- Phase 1 Activities**
- Phase 2 Activities**
- Phase 1&2 Activities**



San Joaquin River Settlement Activities



Source: Tran-Cuba Center U.S. Bureau of Reclamation, 2005 & 2010

Mendota Dam

Columbia Canal

Helm Canal

SAN JOAQUIN RIVER

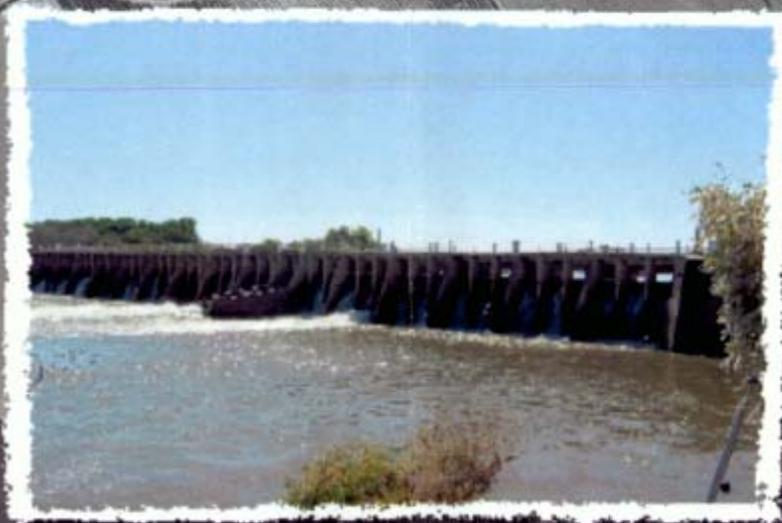
Main Canal

DELTA-MENDOTA CANAL

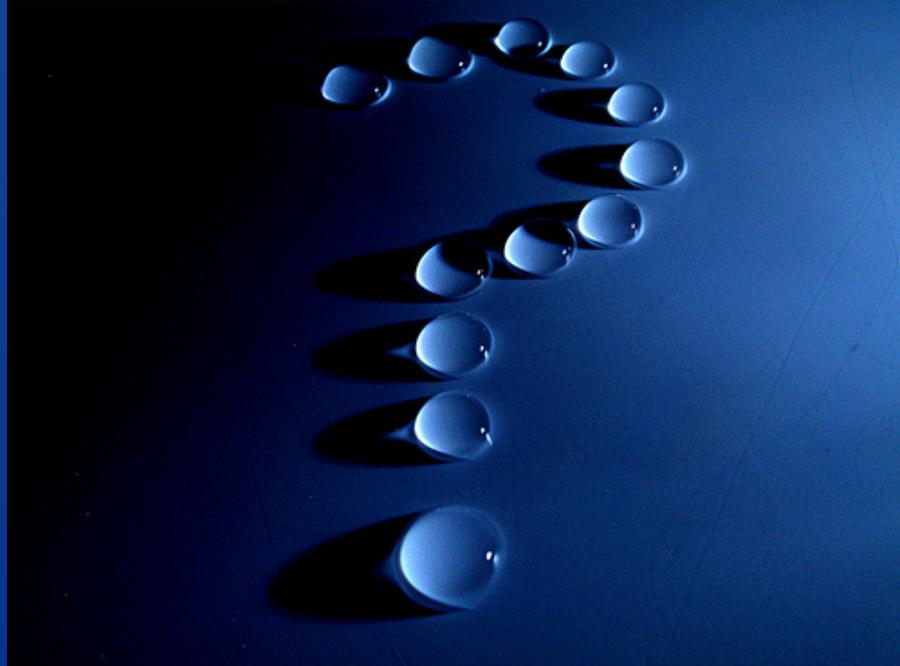
FRESNO SLOUGH

Outside Canal

Main Lift Canal



Questions?



Thank You

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